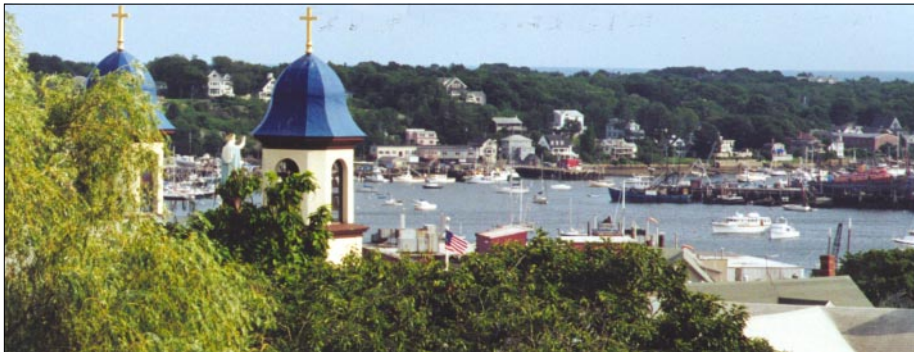


## II. THE LAND AND ITS RESOURCES

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The land that is Gloucester is twenty-six square miles of varied terrain, coastal natural resources and spectacular views. A large part of the city is an island, shared with the Town of Rockport, separated from the cape-mainland and remainder of the city by the Annisquam River and Ipswich Bay. The island side is reconnected to the mainland by two automobile bridges: the beautiful, 20th Century, A. Piatt Andrew Bridge, and the Blynman Drawbridge, affectionately called "The Cut," and a railroad bridge. This rocky cape is defined by the sea around it, with over thirty-five miles of coastline along the Atlantic Ocean, harbors and coves, and the Annisquam River.

Originally called "le Beau Port" (Beautiful Port) by Samuel Champlain who visited in 1605-06, Gloucester was officially colonized in 1623, one of the first settlements in the country. Some of the land, a few remaining houses, and a large part of the natural splendor remain much as they were 400 years ago. Whenever two or three people are gathered together in the city, talk eventually centers on the importance of that past and how we can retain at least a part



of it, while continuing to meet the needs of a changing society. And those were the thoughts uppermost in Plan 2000 participants and the essence of this first section of the Plan: to provide the tools to maintain the wonder of the land, to manage change and growth, and to provide for the quality-of-life that people have come to expect.

Nearly half of the land area of the city makes up the West Gloucester and Magnolia neighborhoods, which are less densely populated than the city as a whole. Much of this land is undeveloped and maintains its natural qualities - from beach dunes and marsh to inland wetlands to massive ledge outcroppings, a large part of it set aside for watershed protection, and much of it is owned by the City or non-profit organizations for recreation and preservation purposes. On the other hand, much of this undeveloped land is privately owned, with several large tracts of land that are ripe for development. With the pending introduction of sewer lines, this area offers the City both challenges and opportunities to harness growth to meet community goals. The City is taking measures to exercise some control over development potential with the "West Gloucester Land Use and Wastewater Plan."

Naturalists and scholars have written volumes about the land and the natural resources of this bit of geography called Cape Ann. People believe passionately that planning should pay close attention to these studies. The following is a sample of that writing:

### Terminal Moraine across Cape Ann

*"The geology of Cape Ann has been an important resource for the scientific community for over a hundred years. Texts of the late 19th century used the terminal moraine across Cape Ann, particularly Dogtown as primary evidence for the glaciation of the East Coast and the eventual changes in the topography which resulted. At the time of those studies Cape Ann was virtually denuded of trees and the distribution of rocks was easily read. A large proportion of the rocks dropped by the glacier are still located across Cape Ann, including Magnolia where unique rock formations and distributions have been hidden and largely forgotten as 20th century woodland regeneration and housing density increased ...*



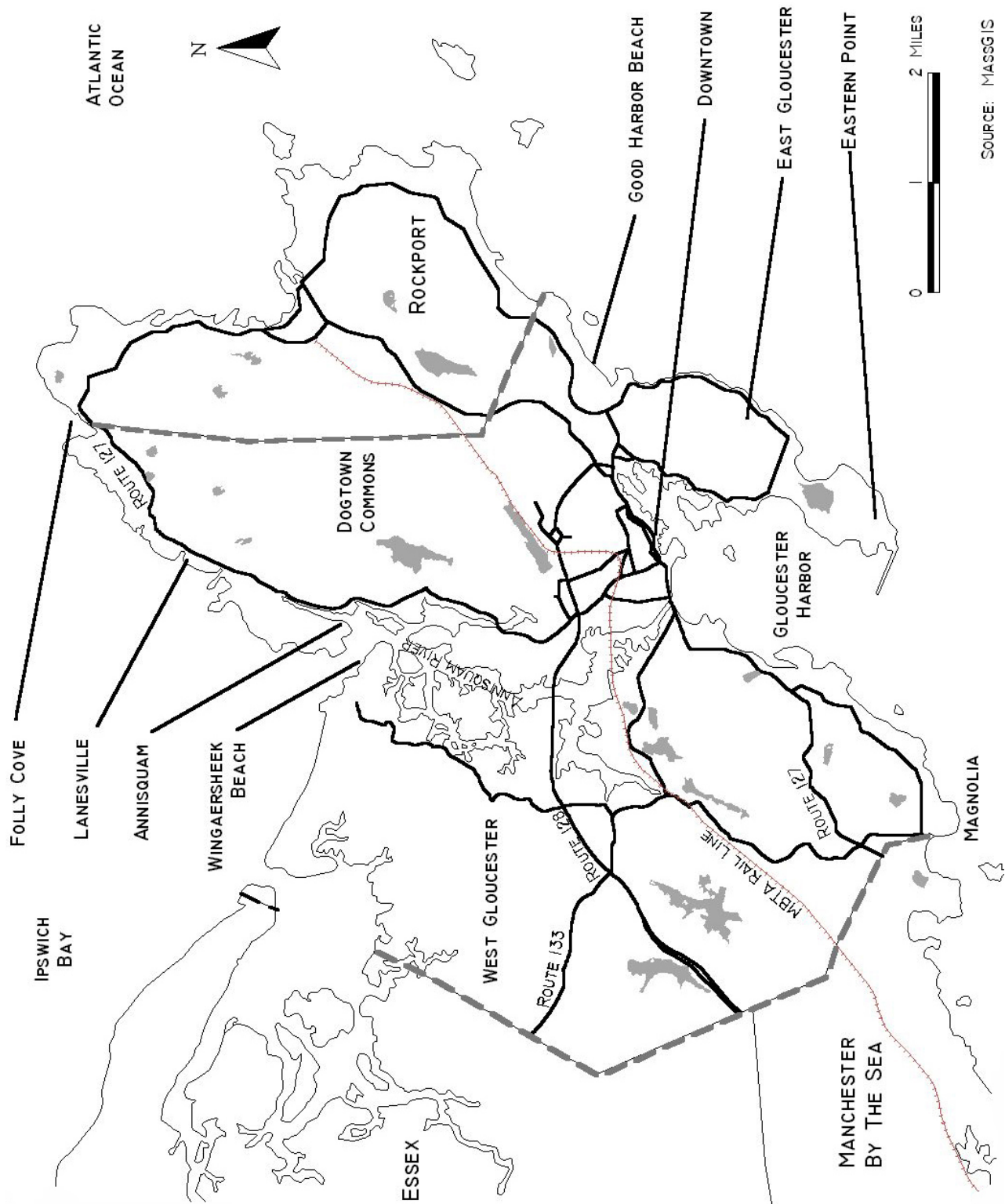
*Today open space loss jeopardizes the natural ecological features that are part of the immediate location of a rock or tumble of rocks - owls watch over them to catch small mammals and leave their pellets as evidence."*

- Vilma R. Hunt, Magnolia

The historic pattern of development concentrated settlements along the rocky shoreline, and only occasionally in the interior of Gloucester. This traditional use of the land can be a model for the future, providing historic patterns responsive to Gloucester's geography and efficiency in terms of the infrastructure that serves them.

With the varied terrain and landscape and natural features throughout the city, adequate controls and protective measures must be tailored to fit the different requirements of each characteristic. These values and controls cross back and forth among the areas covered in these first three sections of the Plan: Land use, Open Space, and Natural Resources and the Environment.

## THE CITY OF GLOUCESTER



## II.A LAND USE

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Regulation of land use provides the City with one of its most powerful tools to shape the future. Through zoning and land use regulations, the City can influence the character and extent of land uses employed by the private sector. The City can influence public stewardship and use of land through its own actions. This section of the Plan provides a new perspective on making land use decisions to assist in fitting new development and land use changes to the community's long term vision. Because of the importance of open space as a land use, this dimension of Gloucester is emphasized in a section of its own.

### II.A.1. RESOURCES AND TRENDS

Gloucester's land is predominately devoted to residential uses and open space. As true of most communities, current zoning sets aside a relatively small amount of land for commercial uses. Of the land available for new development or reuse, relatively little area remains for commercial uses, with significant implications in terms of the tax and employment base for the City. At the same time, substantial tracts of open land remain available for residential



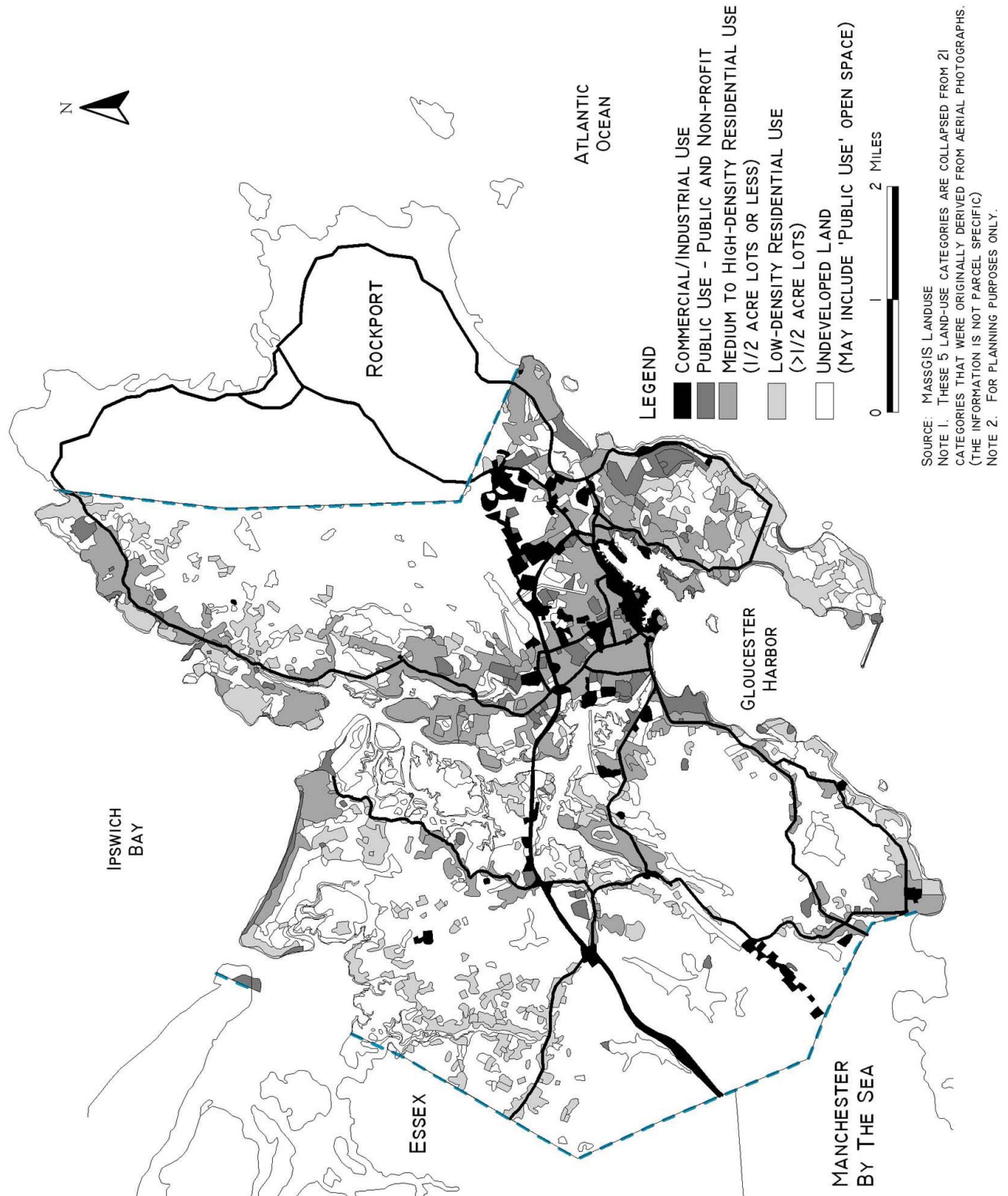
development. This residentially-zoned land is vacant today because of high infrastructure and site improvement costs relative to the market returns on investment. However, market forces are changing, and may dramatically shift from those past trends and toward new large scale residential development that can absorb the higher costs of developing remote and difficult areas.

Development pressure and demand for housing have increased throughout the entire North Shore region. Gloucester is a particular target for this demand, in large part because of the natural beauty of its geography and the waterfront views and locations. Residential infill development has occurred on land that was previously considered 'unbuildable' because of granite ledge that was expensive to remove, and wetlands or generally poor drainage that limited use of sites. Increased land values and sewer extensions, both private and public, have opened these locations to potential for development.

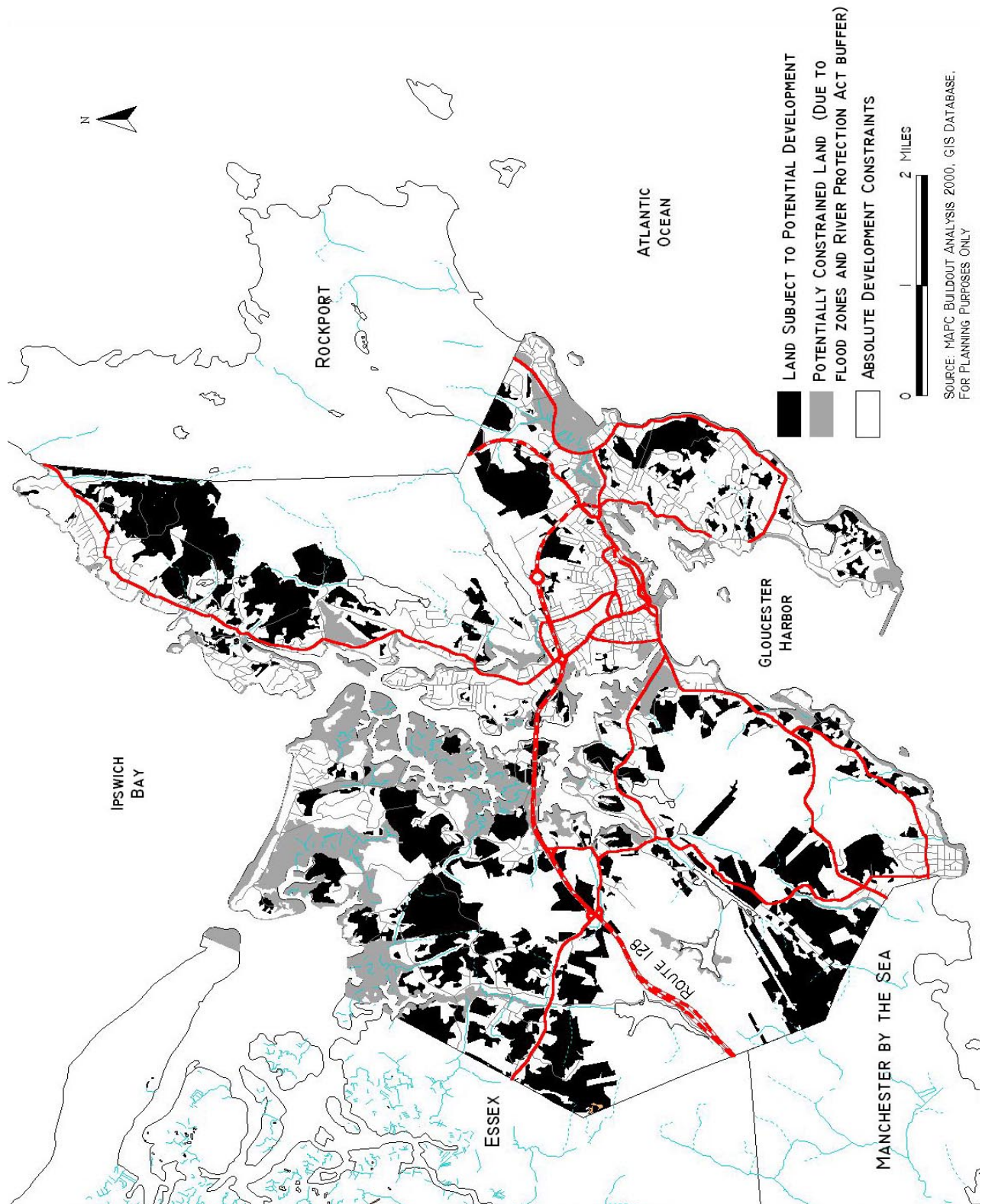
A useful measure of potential change in land use is called a "buildout study", which projects the logical limit of development under existing zoning and land characteristics. Buildout analysis performed for Gloucester by the Metropolitan Area Planning Council, the regional planning agency, dated December 1999 shows that 4,046 new single family residential units are possible in the future under prevailing zoning. Applying a rate of 64 new single family residential units per year from the period 1991 to 2000, one estimate is that there would be an addition of 1,280 new residential units by 2020. Assuming 2.3 persons per unit, this number translates to approximately 2,944 residents in the 20-year period, about a nine percent increase -- if



EXISTING LAND USE PATTERNS



LAND SUBJECT TO POTENTIAL DEVELOPMENT



those units were all single-family. If this trend continues, new services to support residential development will be needed, increasing demand on schools, water infrastructure, parks, police and fire protection.

Land uses in Gloucester are also linked to the infrastructure system that has developed over the past 400 years, including the network of roads. A single arterial road, Route 127, circles the outside of the northern part of Cape Ann, which includes Gloucester and Rockport. Route 127 and an inland road, "the high road", are the only connections to Rockport. Commercial, industrial and residential development has followed the roads and moved inland onto secondary roads. The trend continues, with new roads carved into the woodlands and hills, inviting new development with its accompanying infrastructure, leading to further cycles of infrastructure and development investment.

Strategies to redirect development to areas already served by infrastructure and limiting extension into remote, low-density areas could help minimize impacts on the environment and reduce the public costs of roads and City services, such as water and sewer.

Persistent water supply and distribution limitations can affect the City's capacity to sustain population growth. State of the art water supply protection techniques promote preservation of water quality and existing supplies. There are increasing challenges in providing the quality and quantity of water that users expect. As discussed in Public Facilities and Services, an essential question that must be addressed is whether it is feasible to expand water supplies, or whether supply limitations provide a rationale to manage future growth to a greater degree? As watersheds do not recognize political boundaries, it is essential to work with the towns of Rockport, Essex and Manchester-by-the-Sea to foster adequate water reserves for the future.

This Plan recognizes that the vision for the future will require revising zoning provisions and conditions. Current zoning employs standardized approaches to development, with little variation to account for the special quality of Gloucester's land and environmental resources. This Plan recommends "performance zoning" as the alternative to traditional land use zon-

#### Performance Standards for New Development

*Throughout this Plan, recommendations direct development to conform to neighborhood character and protect special places. This cannot be accomplished with inflexible specifications or numerical standards that apply to all projects within the same zoning designation. That traditional approach is the basis of existing Gloucester land use regulations. New approaches to regulations rely instead on "performance standards" that allow a range of actions, as long as the impacts "perform" to clearly articulated objectives. Such performance standards may be concerned with the amount of traffic or noise that might be generated, and employ this as a basis for determining acceptable proposals. The Community Development Department will have to work closely with boards and commissions to develop a set of performance standards to meet the expectations of this Plan.*

ing. Performance zoning provides for flexible use of planning tools and regulations to meet goals for development. Standards are further refined through public debate and process. Setting these new standards and conditions requires information and public participation to understand what people value and wish to see preserved, building on the steps taken in the Plan 2000 process.

## II.A.2. GOAL

Manage growth with methods that reinforce the existing pattern of developed density and open space and are in harmony with the special site features and existing scale and fabric of the neighborhoods that distinguish Gloucester.

## II.A.3. OBJECTIVES

- Ensure that the Zoning Ordinance, regulations and codes reflect Gloucester values.
- Develop comprehensive and innovative policies and practices that require new development to be environmentally sustainable.
- Establish an effective land-use oversight system, by formulating strong standards, precise evaluation criteria, clear guidance and flexible, powerful regulations that are unambiguous to the public, applicants and interested parties.
- Ensure that new development fits into existing infrastructure capacity or ensures that new development pays its way by providing durable utility extensions that are affordable to service.
- Work with neighboring communities to identify common land use interests, establish strategies and address mutual concerns, such as watershed management, preservation of natural greenbelt wildlife corridors and transportation issues.
- Develop a process for securing funds for land banking, planning for historic preservation, open space preservation and affordable housing development.
- Support enforcement of land use regulations, plan approval conditions and restrictions on development.
- Provide regulations and official actions to protect public view sheds, by-ways and special places that are unique to Gloucester.
- Institute site plan and design review to guide and promote high quality development, minimize adverse impacts, and preserve the visual character of the natural and built environment.



- Promote efficient land use, by providing increased opportunities for multi-family dwelling units, live/work and loft space development, and mixed-use.
- Promote transit-based development that improves the relationship between bus and rail facilities and the surrounding areas.
- Encourage streamlining of permitting process as a potential means to encourage desired development and greater coordination between the permitting boards and commissions and staff.
- Distribute land use information.
- Provide zoning that encourages development of affordable housing.
- Protect industrial park space and land zoned for non-residential use.

#### II.A.4. STRATEGIES

##### **Strategy I. Revise the Zoning Ordinance and Subdivision Regulations to reflect and protect natural and built assets and to realize the City's vision.**

Planning for the future of the city should direct development to fit into and blend with the extraordinary and unique land that makes up Gloucester rather than the current generic regulations that impose use, density and site organization without regard to site conditions. Currently, variances and waivers are often used to remedy unrealistic requirements that have little to do with the site or with good planning. This project-by-project approach should be replaced by a more consistent process that promotes good site planning in the first place. Zoning should protect special site features, respect physical constraints, promote consistency in scale with existing neighborhoods, follow existing public infrastructure, and support business development in appropriate locations.

Criteria for permitting should be established to meet site-specific conditions and to blend with the neighborhood. These criteria should be applied in expanded site plan and design review of projects that exceed certain scale, types or impacts.

Such site-specific considerations require extensive revision to existing ordinances and regulations, which will take time and dedicated effort. The revision process should include the following steps:

- Establish interim zoning regulations that restrict new development projects unless they satisfy interim site planning standards.
- Review current requirements to assess their strengths and weaknesses, investigate ap-

proval records and granted waivers and variances and establish a list of issues to be addressed, as an example -- from recent experience -- the Common Driveway Provision, Adequate Access Requirement and the Road Improvement Plan.

- Conduct a neighborhood land use review with public participation, establishing desirable use and site planning concepts and creating recommendations for use patterns, buffers, density, scale, siting, and site development standards. Permitted uses, consistent with this Plan, might introduce new categories of housing, and a mix of uses that support village character, such as small scale neighborhood businesses that provide convenient goods and services with few impacts.
- Refine the inventory of special places developed as part of the planning process, and as a result of neighborhood public input, on special places, scenic resources and views that might be protected through new site planning and design standards.
- Review the literature and evaluate successes and failures of similar communities who have sought to manage growth through new zoning and subdivision regulations.
- Prepare draft revisions for public review, discussion, further revision and subsequent formal adoption by the City.
- Evaluate the success of the zoning ordinance on an annual basis, and amend the ordinance, if required, to ensure that the effect is as intended.

**Strategy 2. Develop density standards based on existing infrastructure and development patterns.**

Gloucester's desirable qualities are linked to variable density, from the clustered buildings of the downtown and village centers to the concentrations of homes in neighborhoods to rural, low-density areas. Stretches of open space with sparse development create clear and attractive separations between clustered development. The utility and roadway networks follow a similar pattern.

**Using the Computer to Plan for Change**

*Illustrative studies should be conducted to help plan new density standards. For example, Using Geographic Information System (GIS) mapping, the Community Development Department might prepare an illustrative "build out" analysis that directs new development and reuse to land and locations already served by public infrastructure and are already developed. New use and reuse should be encouraged to blend with existing densities and neighborhood character through standards and zoning incentives. Density might be reduced in other areas in order to maintain the balance sought by this Plan. In all cases, "smart growth" principles should be employed, adding to existing structures and already built and serviced uses.*

**Strategy 3. Develop standards for Site and Design Review, to encourage new development patterns to fit this Plan and City vision.**

Standards for Site and Design Review should be proposed by the Community Development Department to be approved and used by permitting boards, commissions and City Council. Design standards typically convey qualities to be achieved rather than the uniform prescriptions of traditional zoning.

Thoughtfully crafted Design Review guidelines inform all participants, the applicant and agents and the permitting board or commission, of desirable design approaches before plans are prepared or submitted. These guidelines can inspire inventive and appropriate ways to blend projects, additions and renovations with the surrounding neighborhood and natural features of the site.

**Strategy 4. Develop procedures for identifying and protecting special places, view sheds and by-ways.**

The Community Development Department should develop a consistent process for identifying features of the city that residents hold dear. The process should coordinate consistent regulations and programs to preserve and protect these features. A preliminary listing was begun during the Plan 2000 process.

Gloucester is widely known for the variety of natural beauty - from beaches and dunes to granite quarries to extensive native woodlands to majestic scenic vistas. These all require policies for protection and preservation. The Open Space and Recreation Plan provides an inventory of many of these special places; others are more commonplace and undocumented. In cooperation with the Open Space and Recreation Plan, the Community Development Department should develop a process to consult the public on further identifying these special places and features and then to recommend methods to preserve them - while preserving the private right to use of the land, when possible.

Methods of protection might include the following:

**The Essex Sewer Project: Gloucester's Model for Coordinated Infrastructure and Land Use Planning**

*The City has initiated a model program for coordinating sewer improvements and providing land use planning at the same time. The City has commissioned a professional study to measure the impacts of the new sewer and provide recommendations to mitigate undesirable indirect impacts. The City sponsored the study because it recognized that the "Essex sewer connection can be a solution to pollution, but it must be properly managed or it will destroy the reason people live in the area. The West Gloucester of the Future should not find "McMansions" and increased congestion replacing the region's trees, stone walls, or open space."*  
(from the Request for Proposals for Wastewater Management Consultant)

- Scenic Roads ordinance to provide protection for trees and stone walls; designates selected local roads for protection.
- Tree ordinance to protect critically important trees.
- Terminal moraine protection to recognize the importance of preserving glacial deposits.
- Conservation or preservation easements to allow continued private use of land, with clearly defined restrictions that preserve special features of the land.
- Purchase or transfer of development rights or parcels of land.

As another means to protect special site features, the City, through the Planning Board and the City Council should continue to work toward adoption of the Open Space Residential/Subdivision Design permitting process. This process of working with all interested parties, in the pre-application stage of a development proposal, identifies special features of the site and cooperatively plans the development for other locations on the site. Originally designed to apply to residential development of a certain size, this concept might be applied to single lots, to all types of development projects, to neighborhoods, and to the city as a whole.

**Strategy 5. Connect land use planning with infrastructure planning and implementation.**

In order to minimize costs of development - both real costs and costs to the land and environment - new development should be directed toward locations where there is existing infrastructure. Expanding land uses requires reconfiguration or extension of infrastructure - roads, power, water and some form of sewer systems. And, once new infrastructure is installed, it dramatically increases the potential for development nearby. In the past, the interdependent relationship of land use and infrastructure was only partially considered as private development and public investments advanced into the landscape.

Extensions or improvements to utility and transportation infrastructure should be evaluated in terms of growth-inducing impacts, before approval. Impact studies should be part of the permitting or approval process for both public and private projects to extend infrastructure. The growth-inducing impacts must be shown to be compatible with this Plan or should be mitigated so that new infrastructure supports the overall land use vision for Gloucester.

These impact studies should be part of the permitting process for the following:

- Public and private sewer extensions
- Public and private road improvements and extensions
- Commercial or industrial development that may have additional infrastructure requirements.



**Strategy 6. Manage existing and future development to meet City environmental and economic objectives and reserve Business and Industrial Park space for commercial and industrial purposes.**

Gloucester has several Industrial Parks, publicly and privately developed, that are important to the economy of the City. Since the potential for developing more parks is limited, the City has a responsibility to ensure that this land is used for this important part of the local economy. The City should ensure that industrial park space is reserved for industrial/commercial, non-residential use, maintaining the space and infrastructure for that use, thereby reducing need to search for new space to dedicate to this purpose. From an environmental perspective, the City should confirm that the parks and their tenants comply with all covenants and regulations that were agreed upon during permitting. At the same time, industrial park infrastructure should respond to technological advances and provide for access to telecommunication and other innovative technology.

These standards should apply to an entire set of permitting and location decisions that the City may be called upon to make: decisions that could influence public health and well being of neighbors or the city as a whole. These uses include, among others, truck parks, junkyards, adult services and entertainment, recycling operations, protein recovery plants, sewer and water pumping stations, and casinos.

**Strategy 7. Use financial mechanisms to manage development, including incentives for desirable development and reasonable fees to mitigate impacts associated with new development.**

Among tools to guide development, the City should consider greater use of financial mechanisms and incentives to encourage specific types and appropriate locations of development. Some of these mechanisms may apply to all development and recovery of the associated public costs; other financial incentives might be applied to applications where substantial benefits to the city might accrue. These tools could allow the City to dedicate future tax revenues from new development

**Using Financial Tools to Manage Growth**

*There are some useful financial tools that the City might employ to help direct and manage future growth. Among the tools that have been useful in Gloucester and other communities are the following:*

- *Tax Increment Financing: A portion of future tax revenues from a new project is set aside to provide the infrastructure that it requires, such as roadway, parking or sewer improvements.*
- *Transfer of Development Rights: This allows density to be transferred between parcels to meet public policy, with a consequent transfer value.*
- *Betterment Policy: The City can charge for the installation of public infrastructure that benefits private landowners on an equitable basis.*
- *Incentives: These exchange a financial benefit to the private sector for a corresponding benefit to the City. These incentives can include provision of additional development density to accomplish public goals, such as providing public open space or public use.*

to finance common infrastructure, and realize associated short term and long term benefits. Similarly, the City should examine the potential benefits of providing tax abatements to encourage the development of affordable housing.

The City should evaluate the direct impacts of new development on infrastructure, and recover the incurred public costs through developer-funded actions or fees to provide for a fair and accurate compensation of incremental costs due to private sector development.

**Strategy 8. Ensure conformance of development to applicable standards and agreements, and examine necessity for policy changes.**

Most regulations and City land use policies are followed and enforced by City staff and participating boards and commissions. Issues arise when there is a lack of staff to enforce compliance, or when the public has unrealistic expectations given existing resources, or the policy, itself, is unrealistic. These situations should be carefully examined and recommendations for remedy should be made. Areas where this examination might apply, include the following:

- Adequate City staff - may be too few or inadequately prepared for the performance expected.
- Wetland protection - the public may expect more protection than provided for by state or local regulation.
- Protect landscapes, drainage and other use patterns from negative effects of tree-cutting and vegetative clearing - protect native trees and other vegetation from clear-cutting; local ordinances and state law will have to be examined to determine which prohibitions are possible.
- Following the Capital Improvements Program (CIP) - more information and structure may be needed to increase coordination and information so that the Capital Improvements Program is followed. The report of the Capital Improvements Advisory Board should be official and public.
- Limitations on public powers - in some cases, the ability of the public to manage change is limited. For example, "Approval Not Required (ANR)," actions by the Planning Board that endorse proposed lot-line changes. The Board currently has no effective ability to alter the proposal or outcome. State law dictates ANR procedures; to change these will require working with state officials, elected and staff.

**Strategy 9. Contribute to regional solutions to land use issues through expanded coordination with neighboring communities.**

The City should cooperate with regional efforts to address issues that transcend municipal boundaries. On a yearly basis, neighboring communities should hold a 'summit meeting' to discuss issues near city borders. Rockport, Essex, and Manchester-by-the-Sea officials should be notified when any action is taken in Gloucester that might influence land-use in their towns. The Community Development Department should develop a procedure to allow official input into major development projects on the borders of these neighboring communities. Additionally, the City of Gloucester should develop policies to address cross-border issues, in particular watershed management, wildlife corridors, and transportation.

**Strategy 10. Provide information to the public on land use regulations and decisions.**

Broader public understanding of new land use techniques is needed if the City is going to create effective new tools to guide development that is consistent with the City Vision. For example, the City could enhance public information and outreach on site planning, stormwater management and drinking water protection, and it could post land use permit decisions on the City web site to enhance public awareness. The Community Development Department and the City Council should work with boards and commissions to evaluate innovative planning tools and to provide information to interested residents.

**Strategy 11. Explore ways to allow land and special resources preservation, including examining benefits of adopting the Community Preservation Act.**

Land preservation requires an assortment of dedicated resources and cooperative effort, not the least of them funds and continued search for more funds. Staff resources within the Community Development Department will be required to manage policy and work with the public, boards and commissions, associated non-profits and other city staff to accomplish significant preservation. Those tasks should include the following:

- Provide information on methods of accomplishing open space preservation.
- Encourage and work with organizations and individuals to create conservation and preservation easements, using tax incentives and conditions on development rights.
- Seek additional resources and funding to allow preservation.
- Manage land acquisition and land banking.

Much of this preservation effort may be done in cooperation with non-profit organizations and advising residents about avenues to dedicating land to open space and natural-state use.

Among the potential funding sources is the recently enacted Commonwealth of Massachusetts Community Preservation Act, which allows participating communities to direct new resources to three categories: preservation of open space, creation and support of affordable housing, and acquisition and preservation of historic buildings and places. The Act requires communities to prepare a plan to preserve these assets so that Gloucester's own priorities would direct the funds and actions. Local voters decide if they prefer to dedicate additional local property tax revenues to support projects identified in the Community Preservation Act Plan. The Commonwealth will match locally generated revenues, in amounts determined in part by timing of participation and the number of communities that elect to participate in the program. Annual revenues targeted to preservation purposes could range from \$400,000 to approximately \$2 million a year, depending upon the extent of participation chosen by the voters and the amount of matching funds released by the Commonwealth.

If, after careful examination of the benefits, the City chooses to pursue these state funds, all interested parties should work cooperative and aggressively for passage and release of this important money.



## II.B OPEN SPACE

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Traveling around Gloucester, one sees large stretches of undeveloped land; nearly all of this is categorized as "open space" for the purposes of this Plan. Some of this land is in public ownership, set aside as parks or recreational areas. Other areas in public ownership are preserved in undeveloped state for their critical contribution to water supplies. Much of the open land is privately owned, but is either undeveloped or has been developed at very low densities. Of the privately held open space, most of it has potential for development of housing.



The Plan 2000 process underlined the importance that the citizens place on this open land, and the need to establish a proactive approach to its public and private preservation. This Plan expands the framework of potential participants, exploring the value of non-profit land trusts and conservation organizations to protect land. By coordinating City and volunteer expertise, and identifying and using a variety of fiscal and planning tools Gloucester can identify, prioritize, and permanently protect open spaces and maintain them for their best use. This Plan provides strategies to assist that effort.

### II.B.I. RESOURCES AND TRENDS

Of the 26 square miles of land in Gloucester, more than 40 percent, about 6,500 acres, is classified Open Space. Residents of Gloucester cherish, enjoy and benefit from this diverse space that ranges from neighborhood ball-fields to large tracts of forest, from sandy beaches to moorland bogs and upland blueberry patches, from public ways to the sea to walking trails



and historic sites, from vernal pools to hilltop lookouts. Gloucester's open spaces are found in urban locations and in wilderness, protected and unprotected conditions, and private and public ownership.

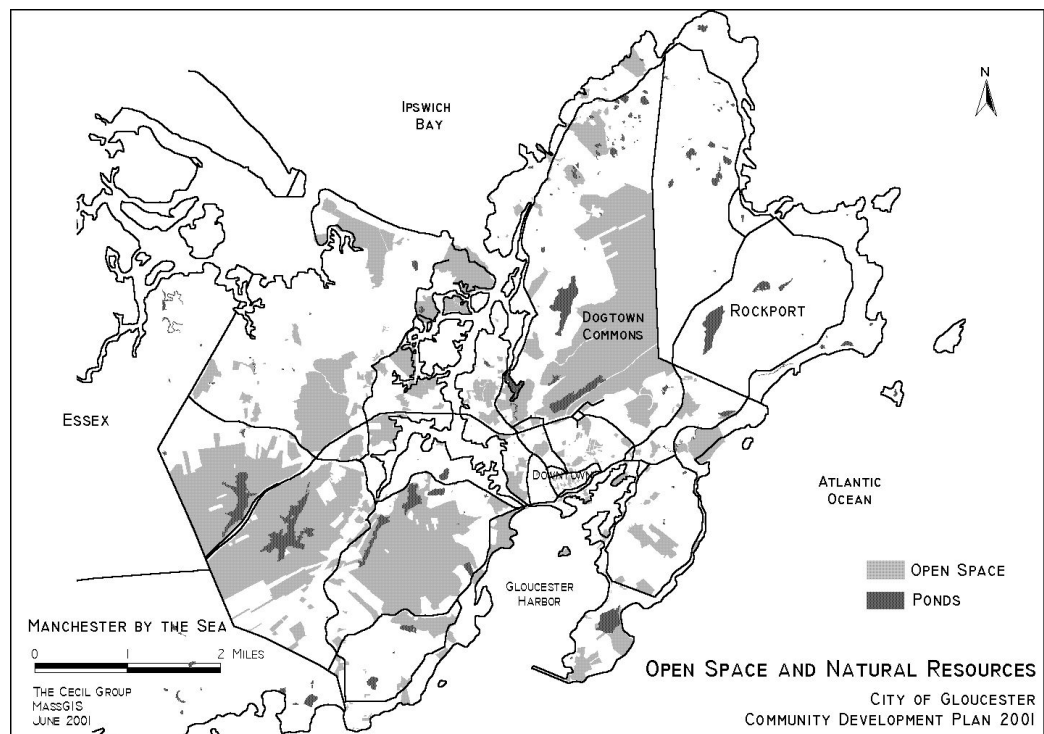
The value of the open space rests, in part, on the preservation of habitat and natural resources that can be damaged by other uses. Rare plants and animals, for example, inhabit the wild interior of Dogtown, in the middle of Cape Ann, also remarkable for its historic, recreational and watershed protection features. Hundreds of acres of land have been set aside for watershed protection, to ensure that the quality of available water will not be eroded by development.

The Open Space designation includes a wide variety of uses, including cemeteries, a private golf course, and nearly 50 public and semi-public outdoor recreation areas, such as school grounds; about 100 acres is designated for active recreation.

## OPEN SPACE

Other areas emphasize more passive uses, in balance with recreation. Summer weekends, for example, bring hundreds to Stage Fort Park and adjacent Half Moon Beach, overlooking Gloucester Harbor. People stroll 'the Boulevard' along the Harbor for exercise, to enjoy the views, or watch the 'Festival of Lights' on a summer evening. Bass Rocks and Goose Cove Reservoir are other walking venues. Soccer fields, woods and trails replace the former City landfill, now called The Magnolia Woods Park. This park connects with Rafe's Chasm Park to form one tract of land, over 200 acres - with direct access to the Magnolia Rocks and the sea. Ravenswood Park, owned by the Trustees of Reservations, is used by walkers - with or without dogs - cross-country skiers, school athletic teams, mountain bikers, birdwatchers and botanists.

In addition to the beauty, scientific and recreational value, open space contributes to the local economy. Good Harbor and Wingaersheek Beaches typically attract thousands of beach goers on hot summer days, collecting parking fees, which help fund parks and recreation. Other visitors travel to Gloucester to enjoy the ocean air and appreciate land and seascapes made famous by Gloucester artists. They explore on foot, boat, bike and car and patronize hotels, restaurants, shops and other visitor-services. Businesses benefit, and the City benefits from the tax revenue.



*Designated Open Space Areas*

The inventory of open space in Gloucester requires thorough and accurate updating that clearly classifies underlying environmental, social and economic values. Some open spaces - existing baseball diamonds and tennis courts, for example - are used and needed as recreation sites; others should be protected for their natural resource and wildlife habitat values. Some open spaces can tolerate use by large numbers of people; others should remain pristine. Some open spaces might be opened up to trails; others could be negatively affected by increased traffic. This Plan recognizes that all decisions concerning use and management of open space should be based on delineation of features, followed by careful decision-making.

### II.B.2. GOAL

Identify, prioritize, and preserve highly valued open space through permanent protection, and increase public access to open space and waterfronts, consistent with preservation of environmental resources and consideration of needs and amenities of neighborhoods and the City as a whole.

### II.B.3. OBJECTIVES

- Ensure public participation in planning for open space preservation and protection by forming an Open Space and Recreation Committee.
- Update Open Space and Recreation Plan, including an inventory and prioritization of open space in Gloucester.
- Expand City resources dedicated to Open Space preservation and protection, including a staff position in the Community Development Department.
- Seek funding for acquisition, protection, preservation, and maintenance of open space.
- Keep open spaces clean through aggressive enforcement of maintenance programs.
- Provide information on ways to preserve and maintain open space and promote permanent protection through purchase, gifts, easements, and covenants.
- Protect the continued public use of public rights-of-way and prevent private encroachment into these ways.
- Increase number of access points to the water.

## II.B.4. STRATEGIES

### **Strategy I. Form an Open Space and Recreation Committee and encourage citizen participation in planning for acquisition, protection and management of open space.**

An official Open Space and Recreation Committee should be appointed by the Mayor, following guidelines outlined in the Open Space Planner's Workbook, published by the Massachusetts Executive Office of Environmental Affairs, with tasks to include the following:

- Develop processes for including the general public and consulting with the public in planning for open space preservation, acquisition and management.
- Review and maintain the existing Open Space and Recreation Plans, develop the 2004-2009 Revised Plan and all future Plan updates, and make recommendations for Open Space and Recreation Plan implementation.
- Establish a public review and comment process for proposed disposition or sale of City-owned land or tax-title land.
- Coordinate existing and future committees to prepare and implement management plans for significant Gloucester properties, such as Magnolia Woods, Pole's Hill, Dogtown, Stage Fort Park, and all the Gloucester beaches and recreation areas, elevating them from "Advisory" or Ad Hoc to permanent status, with assistance from City staff.
- Examine public access to public open spaces and waterfront areas in the city and recommend improvements, as appropriate.
- Recommend capital improvements, recreational programs and maintenance programs, including specific recreational uses and bicycle and walking paths, as appropriate.
- Recommend directional and interpretive signage where appropriate.
- Explore and recommend funding mechanisms to acquire open space.
- Examine need for native tree preservation or reforestation, especially in denser areas, and make recommendations for maintenance and planting.
- Investigate advisability of adopting the Community Preservation Act and make recommendations to the City Council and Mayor.

This Committee has a long task list and will require appropriate resources to accomplish them. The Committee will need coordination and assistance by the Community Development Department. To meet the Plan intent of integrating the varied interests of the City, a member of the Housing Coalition should be included on the Open Space and Recreation Committee.



**Strategy 2. Review and update the Open Space and Recreation Plan, prioritizing protection measures to provide the greatest long-term value.**

The City of Gloucester maintains an Open Space and Recreation Plan, a comprehensive inventory of City-owned open space and recreation facilities that is updated at five-year intervals or as needed to meet specific requirements. The Open Space and Recreation Committee should review the 1998 - 2003 Plan to assess City compliance and to make recommendations for short-term action. In particular, the committee should assess the recommendation: "Consider acquisition of privately owned lands within the city's seven primary watersheds; lands adjacent to other designated conservation or open space lands to create contiguous greenbelts, lands designated as wetland which are significant to groundwater supply, protection of fisheries, shellfish, and wildlife, or prevention of pollution, lands providing access to the water, and lands providing scenic vistas."

In order to conduct the above assessment, the Open Space and Recreation Committee should inventory and develop a process to evaluate undeveloped publicly and privately owned land in the city, including small parcels in densely populated areas. Following the inventory, the Committee should prioritize and make recommendations for preserving the most highly valued spaces.

This blueprint should then be used to guide protection and acquisition actions, for site plan review of permit applications, and to plan expenditures on parks and recreation areas. To strike a balance between open and developed land needs throughout the city, the Committee will need to be flexible in following recommended actions.

City resources, coordinated by a new staff position within the Community Development Department, will be required to support the work of the Open Space and Recreation Committee.

**Strategy 3. Explore and adopt funding mechanisms to acquire open space.**

Purchase of property or the development rights to property is often the most effective way to preserve open space, requiring significant amounts of money. The Open Space and Recreation Committee should review methods of accumulating funds for this purpose, to include the following actions:

- Examine benefits of the Community Preservation Act and act accordingly, urging passage if that is the conclusion.
- Assign City staff to pursue State and Federal grants that will aid in open space preservation and associated recreational activities.
- Establish an Open Space Preservation Organization and Fund, adjunct to the Open Space

and Recreation Committee, to encourage and receive tax-deductable donations of funds, property or development rights, to seek and manage grants, and to accept property from varied sources.

- Dedicate special income streams, such as real estate transaction fees, sale of tax-titled land, or regular City appropriations, to the Open Space Preservation Organization and Fund.

**Strategy 4. Expand City resources for enforcement of regulations that protect open space.**

Many current ordinances and regulations already protect open space in Gloucester. The Conservation Commission, for example, has responsibility for oversight of wetlands and applies this oversight during the approval process. Wetlands and wetland buffers can be damaged through inappropriate on-site activities that were not submitted for an approval, or conditions of approval that were not followed over time, even if initial construction did comply with the regulations. The City should expand enforcement of regulations that protect open space by allocating staff and resources.

**Strategy 5. Develop new ordinances and regulations to protect open space, unusual landforms and unique places.**

Additional regulations are needed for adequate protection of open space. Regulations should include incentives and requirements for clustering improvements away from the valuable open areas of sites. In certain locations, provision of publicly accessible open space may be negotiated as a condition of approval.

Part of Gloucester's charm and attractiveness are the unusual landforms and natural places. Formations of sea-worn rock line the edges of coves. The peak of a hill may be seen from several miles. A quiet vista to the sea may suddenly appear as one travels along a roadway. These features can have permanent public protection when preservation can occur through acquisition. However, often acquisition is not possible; in these cases, locations should be identified and have restrictions placed on alteration, while preserving ownership rights that allow appropriate use of the land.

Wetlands and salt marshes are particularly precious natural and open space assets within Gloucester. Because of their extraordinary value, the Open Space Plan should determine whether current Federal, State, or local restrictions are adequately protecting open space values linked to these special environments. If the study determines that degradation is still occurring because of inadequate regulations, additional protection measures should be adopted.

## II.C NATURAL RESOURCES AND THE ENVIRONMENT

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The geography and geology of Gloucester provide a unique combination of natural features. The physical landscape is characterized by rocky seacoast, beaches and dunes, estuaries, freshwater wetlands, forested uplands and surface waters. The physical features, in turn, provide a variety of habitats for diverse vegetation and wildlife. The integrity of these varied



ecosystems has important implications for environmental quality and public health. Gloucester's natural resources are also economic, scenic and recreational resources.

These natural resources provide invaluable health, environmental, recreational and economic benefits. Gloucester relies upon surface water resources (reservoirs) for its drinking water. Significant losses of natural vegetation cover in our watersheds not only threaten ecosystem health, but also the safety of our public drinking water supply.

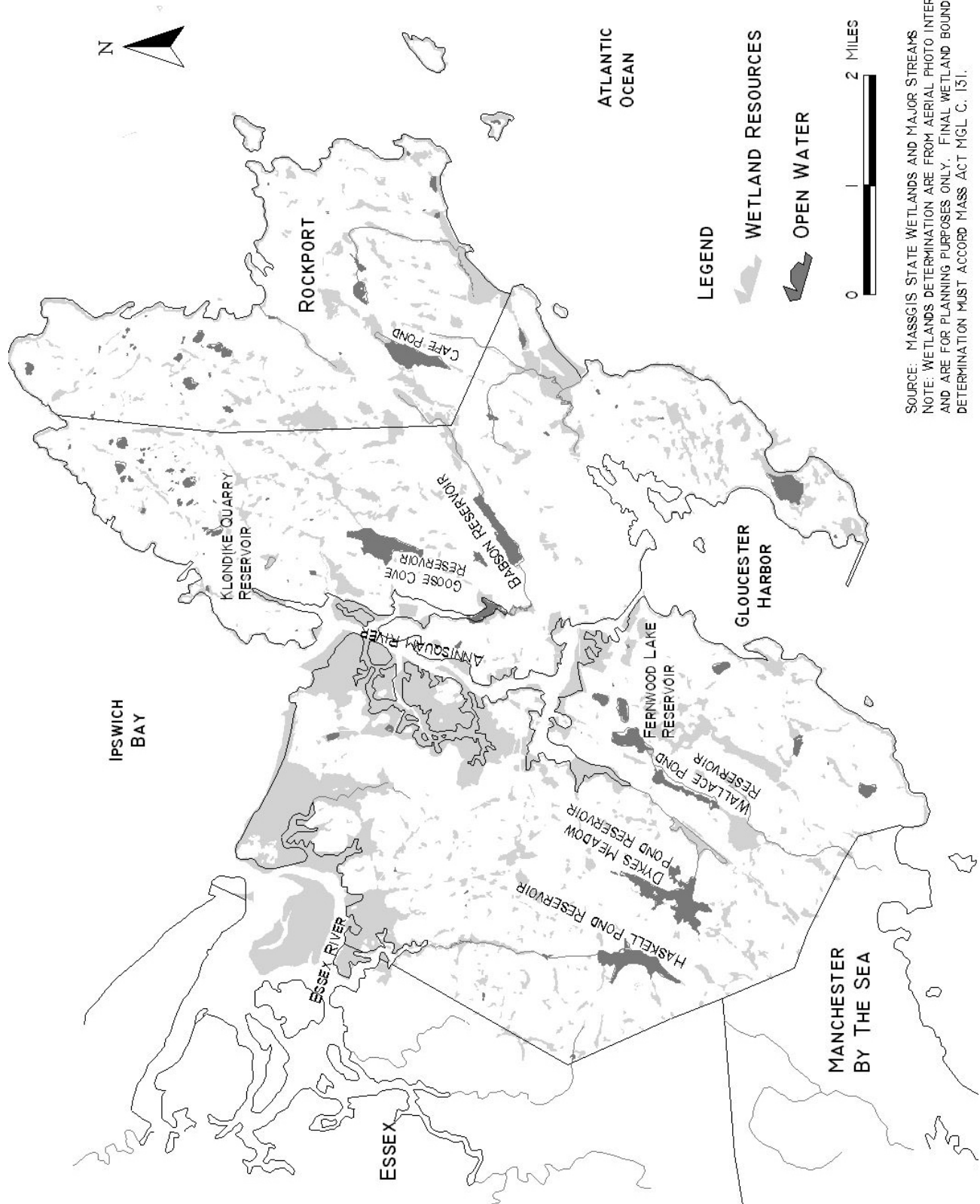
Clean ocean water, rivers and ponds for swimming and fishing, and improved habitats for shellfish in the Annisquam River are just some of the benefits of healthy environment. Fresh and moderating breezes off the ocean, panoramic views, and clean water along much of the coast are some of the health and recreational benefits. Many of these resources support passive and recreational activities including beach-combing and surfing, kayaking, picking blueberries, diving, bicycling, fishing, boating, picnicking, sight seeing, walking and running.

Many of the natural open spaces in the city are wetlands and open waters - bays, ponds, beaches, and fresh and saltwater wetlands and marshes. The wetlands and marshes function as water quality filters by trapping silt and organic materials, provide flood control, and support the habitat for rare/endangered plants and animals, migratory birds and other wildlife. Salt marshes are among the most productive lands on earth, out-competing even the best-managed farms.

Increased development pressures and the lack of management threaten to degrade these natural resources and the environment to which they are linked. More and more open land is being developed, generally degrading the quality of the environment. Inappropriate development divides ecosystems and reduces critical habitats needed for wildlife to survive. Development can increase stormwater runoff and damage water quality.

To safeguard Gloucester's natural resources for the future, responsible management is needed. This Plan strengthens management tools to reduce detrimental impacts on resources and improve their quality. In concert with this approach, the public will benefit from an expanded understanding of the environment and natural resources.

WETLAND AND WATER RESOURCES



## II.C.1 RESOURCES AND TRENDS

Over 7 percent of Gloucester's area is surface water, including reservoirs, natural ponds, and streams. Seven reservoirs supply all the city's drinking water. State and local regulations have classified more than 20 percent, or 3,300 acres, of Gloucester's land area as "watershed protection" to safeguard many of these drinking water sources. However, incremental development and careless use can adversely impact them. A watershed management program could provide additional protection for Gloucester's water supply.



More than 10 percent of the area in Gloucester is classified as wetlands, both fresh and salt water, including much of the area bordering the Annisquam River and the beach areas. Fresh-water wetland and salt marsh functions include: improving water quality by trapping silt and organic materials; providing flood control; and providing essential habitat for birds and other species and rare/endangered plants and animals. Salt marshes are among the most biologically productive lands on earth, with two-thirds of all marine fish and shellfish depending on them during some part of their life cycle. A portion of this land in Gloucester is designated as an Area of Critical Environmental Concern (A.C.E.C.), including marshes and clams flats that are among the most pristine in the state.



A healthy salt marsh ecosystem requires unrestricted tidal flow. Portions of some marshes, including the one behind the Good Harbor Beach barrier spit, have had tidal flows partially restricted by road and bridge construction. This can cause increased sedimentation in the marsh and proliferation of invasive species that do not tolerate salt water, such as phragmites. Restricted tidal flows, increased areas of impervious surfaces, stormwater runoff, and other negative impacts on salt marshes should be addressed to preserve, protect and restore this irreplaceable natural resource.

Over 35 miles of coastline includes bays, beaches, coves, estuaries, and tide pools. Coastal and offshore waters are habitat for marine species ranging from whales to pipe fish, and sea worms to sea lettuce. Many marine species are vital to the local economy through fishing, lobstering, clamming, and whale watching. This plan aims to reduce negative impacts on marine species by reducing stormwater pollution and avoiding pollutants that degrade the coastal system.

Gloucester has beautiful beaches, some would say among the most beautiful in the world. The beach and dune systems are recreationally and environmentally important. Thousands

## NATURAL RESOURCES AND THE ENVIRONMENT

of recreational users visit Gloucester's beaches every year throughout the seasons. Though beaches and dunes provide enduring protection from storms, minimizing flooding in coastal areas, their shifting sands are fragile environments that require special protections and management. The City needs to protect and enhance these resources with specific programs and policies.

Many special natural features in the landscape are a result of glacial action. Some of the most striking glacial features are "erratics," large boulders transported and deposited by ice sheets that retreated north from Cape Ann over 10,000 years ago. Whales Jaw, in Dogtown, is a well-known local example of an erratic. Many bedrock outcrops are evidence of glacial erosion of the landscape. At some of these outcrops, evidence of the glacier's movements over the rock are visible including grooves, striations (scratches), and areas of polished bedrock. These features exemplify a unique landscape that deserves protection and management for residents and visitors to enjoy, and for posterity.

### II.C.2. GOAL

Protect the environmental resources of Gloucester through regulation, vigilance, and actions that preserve the water supply and water quality and conserve rare and sensitive natural environments and habitats.

### II.C.3. OBJECTIVES

- Dedicate City resources and staff to environmental and natural resource protection.
- Develop a comprehensive Resource Management Plan to ensure that all relevant programs are integrated and coordinated with City policies and meet state and federal programs and requirements.
- Make wetlands, anadromous fish, and shellfish bed restoration and protection, priorities for action, revising City regulations as needed.
- Continue improvement of the environmental quality of the inner harbor and other coastal waters, including establishing City policies to reduce and mitigate pollution from marine-related activities.
- Develop and promote methods and incentives to increase the efficiency of water and energy uses.
- Inventory and certify all streams and rivers, and perennial and intermittent streams and wetlands, and establish associated restoration programs as necessary.

## NATURAL RESOURCES AND THE ENVIRONMENT

- Identify and promote restored fish runs of herring, alewives, and smelt.
- Identify and plan for protection of natural resource features that are peculiar or special to Gloucester, including geologic formations.

### II.C.4. STRATEGIES

#### **Strategy 1. Establish an Office of Natural Resources to assist in managing natural assets effectively, efficiently, and in a coordinated manner with other City departments and policies.**

Gloucester's wetlands, soils, shellfish, wildlife, granite and other natural resources are subject to changing conditions and need protection and management to preserve them. This level of management requires long-term stewardship and financial and staffing decisions. The City should establish an Office of Natural Resources, within the Community Development Department, to coordinate the management of natural resources, work with other City departments, land preservation trusts, neighborhoods, seek funding, and plan and implement long-term preservation and protection plans.

#### **Strategy 2. Develop a Natural Resource Management Plan.**

The Open Space and Recreation Committee and the Community Development Department should prepare a Natural Resources element of the Open Space and Recreation Plan update. This element should establish priorities to adequately manage and protect the environment and natural resources, and include the following:

- Existing conditions of riparian rivers and streams, coastal waters, watersheds, wetlands, beaches and dunes, soils and vegetation, and special features.
- Uses, activities and impacts associated with point and non-point source pollution, open space areas, water use, watersheds, non-discharge areas and shellfish bed resources.
- Areas that need restoration, mitigation, and additional protection.
- An implementation plan and recommendations.
- Sources of funding to help implement recommendations.
- Policy areas to address include the following:
  - Seeking to achieve "sustainability" in public and private actions, and consideration of an "environmental sustainability indicator" program.

## NATURAL RESOURCES AND THE ENVIRONMENT

- Minimizing impervious surface throughout the city.
- Promoting "green development" design, for buildings and public works.
- Coordinating natural resource planning with transportation and other City planning.
- Promoting actions to reduce "greenhouse" effects and "global warming", especially as they affect the waterfront and beaches.

### **Strategy 3. Strengthen City policies that address pollution from marine-related activities, and continue programs to reduce pollution in the inner harbor.**

The Community Development Department, in cooperation with the Waterways Board and the Health Department, should recommend policies and regulations to be adopted by the City, to accomplish the following:

- Promote pump-out facilities at all commercial marinas.
- Examine potential for "No Discharge Areas" in Gloucester waters.
- Eliminate direct drainage of storm water to bathing beaches and other environmentally sensitive waters.
- Establish, implement, and fund a program to gradually eliminate all combined sewer overflows (CSO), as advised by the Capital Improvements Advisory Board.
- Develop an information program to encourage the gradual replacement of two-cycle air and water cooled engines with four-cycle engines.
- Develop an information program to inform the public about the application of potential pollutants such as herbicides, pesticides, fertilizers and deicers to ensure that they are either properly used in ecologically sensitive areas or prohibited.

### **Strategy 4. Develop a stormwater management plan that meets proposed federal Environmental Protection Agency (EPA) mandates.**

The City should have a stormwater plan that meets EPA objectives. The first objective is to achieve reasonable progress toward attaining water quality standards in impaired water bodies before EPA approval or establishment of a Total Maximum Daily Load (TMDL). The second objective is to achieve reasonable assurance that an established TMDL will be implemented. Additional regulations to reduce impervious surfaces and non-point source pollu-



tion will help improve the water quality of the streams, rivers, and coastal waters, and especially beaches and harbors.

### **Strategy 5. Develop programs that promote stewardship of natural resources and their associated ecosystems.**

Stewardship programs assist in the long-term protection of natural resources by creating and then building on citizen support. This often results from both formal and informal programs to inform people about actions that would negatively affect the environment. The City should work with other public agencies and organizations to promote and sponsor programs that connect the citizens of Gloucester to specific areas and resources as stewards of the future.

### **Strategy 6. Promote programs that encourage water use efficiency and conservation.**

Water is a valuable natural resource. Preserving high quality and adequate supplies is a fundamental service in the community. The City, acting through the Department of Public Works, Building Inspector, City Council and Mayor's Office, should establish water use reduction programs through tools such as plumbing code changes, revised rate structures, water reuse and recycling measures, encouraging retrofit to low-flow water devices, promotion of native species landscaping, and by providing information to citizens.

### **Strategy 7. Consider increasing protection of wetlands by enforcing wetland buffer restrictions and establishing a "no activity/no disturb" zone within wetlands buffer zones.**

In some cases, the buffer areas around wetland areas contribute substantially to the adjacent wetland resources. Existing City regulations provide little guidance on how to establish the value of these buffers, and where special restrictions may be required on permitted to appropriately protect the wetlands. The City should undertake an evaluation of the wetland buffers throughout Gloucester, and determine if and where additional regulations would benefit the wetland resources. For example, creating a "no activity/no disturb zone" within a narrower buffer zone may provide more protection than allowing some activities within the wider buffer zones in use today. The City should examine the potential of this regulatory approach as part of the Open Space and Recreation plan update, and determine its merits for improving protection of wetlands.

**Strategy 8. Seek funds, grants and gifts for preservation and protection of natural resources.**

Funding sources should be identified as part of the open space protection and acquisition strategies. The City Grants Program should be expanded to provide assistance to city departments in identifying and seeking funding and applying for grants.

In addition, the city can provide information to landowners and potential donors of land on the significant tax benefits that can accrue from gifts and granting conservation restrictions and easements.

Short of acquisition, open space can be somewhat protected by regulation. Where taking of land for public purposes requires compensation to the landowner, lesser demands by regulation, such as setbacks and open space percentages, are clearly within the police powers of the City.

**Mini-Treatise on the Background of Police Power**

*Police power, in the context of the Plan, refers to the regulation of land use; it is one aspect of municipal police power in Massachusetts derived originally in 1692-93 Mass. Acts 28, s5 granting towns the authority to enact general ordinances and by-laws. Currently, the major source of authority for land use regulation in the Commonwealth's towns and cities is the 1975 Zoning Act (Mass. General Law chapter 40A), a statute permitting considerable flexibility in municipal ordinances and by-laws subject only to consistency with the constitution and other statutes. Together with M G L. chapter 40, s21 (referred to as the backbone of municipal police power), the 1966 Home Rule Amendment (Mass. Constitutional Amendment LXXXIX), and a number of other statutes, a municipality such as Gloucester has at its disposal a number of regulatory devices with which to control land use, called "police powers."*